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Prairie in Vermilion County

by

Marilyn F. Campbell and Doris L. Westfall

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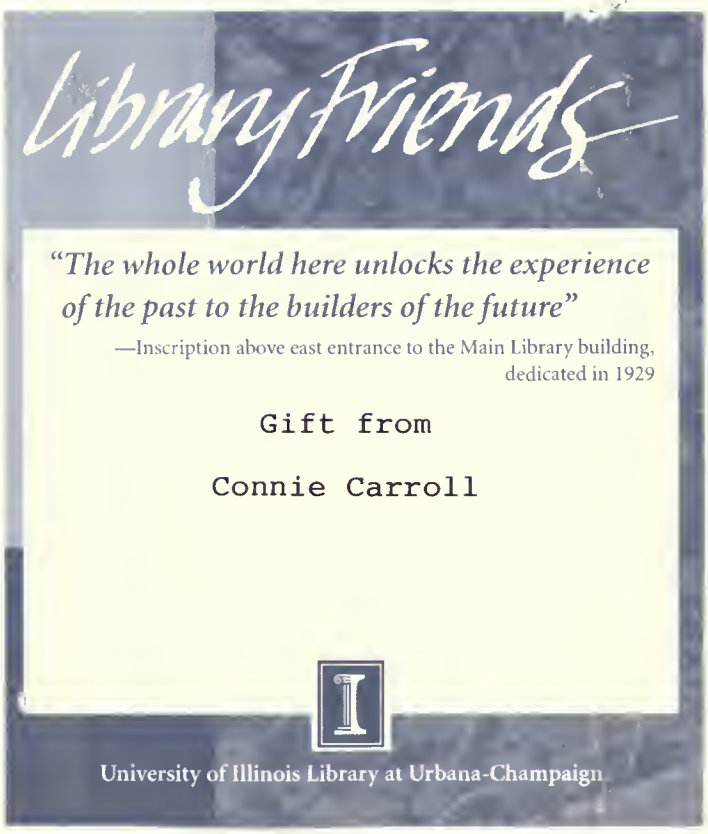
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THE PRAIRIE IN VERMILION COUNTY

by

Marilyn F. Campbell and Doris L. Westfall

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THE PRAIRIE IN VERMILION COUNTY

natural history

By Marilyn F. Campbell & Doris L. Westfall

"Century after century, out of the unlit past and into the comprehension of men, the grasses waved in the prairie wind. Through the years they bowed their plumed heads to the wind, shook their pollen to its caress, and then died back into the rich brown earth they were helping to build. Great herds of buffalo annually wandered north and south, leaving the grass disfigured as a result of their hunger. Here the savage bulls shook their shaggy heads and bellowed. . . .and in the wake of the buffalo, above the waves of this immense inland sea, the prairie chicken stamped and boomed.

There were flowers here, too; flowers that rarely rear their gaudy blossoms to the sweep of the sky today. There was also the Indian, who with his fires helped to keep this grass the master of the earth in which it grew, and which it protected from the winds. It was a rich land, with streams meandering through the lined attendants of willows and cottonwoods. There were stately elk treading the earth that housed the ground squirrels and the mice that tunneled there. On broad wings the hawk awaited the unwary, seemingly pinned on the indifferent blue sky. Over all this, the wind held its whistling dominion."[1]

The prairie of Vermilion County, like that everywhere in the "Prairie State", has been reduced to mere remnants of what it once encompassed. Since 1972, we have been locating prairie remnants and inventorying the plants in them. We have also been successful in re-establishing a prairie community at Forest Glen County Preserve. Our discussion will be divided into five parts: formation and early history of local prairie, railroad prairies, hill prairies, pioneer cemeteries and other scattered remnants, and the prairie restoration project.

Formation and Early History

When the first European explorers finally succeeded in crossing the great eastern forest of North America, they burst suddenly out onto a vast sea of grass. French explorers termed it "prairie", meaning flat land. Prairie is not always flat--it may be undulating and hilly--but it is always dominated by grasses. It is an exceedingly complex community and, in its original form, it was host to more than 200 species of grasses,

legumes, and forbs. Many animals such as ground squirrels, elk, buffalo, prairie wolves (coyotes), and smaller mammals lived in a natural balance with the prairie plants and a host of other animals, birds, and insects. This was Illinois before the coming of the plow, and Vermilion County was a part of that large eastward projection known as the "Grand Prairie".

Before the first explorers, Indians had lived for centuries in the eastern woodlands, and had hunted the prairie animals. Their fires, often used to drive game, had helped to keep the grasslands from being swallowed up by the forest. Rainfall also played a part in this early environment. The 40 to 60-inch rainfall of Ohio and Pennsylvania nurtured beech-maple forests, and the reduced rainfall in western Indiana and Illinois produced drier oak-hickory forests. As rainfall approached 30 inches annually, the tall-grass prairie dominated the landscape. Further west, with rainfall even less abundant, the short grasses covered the plains. The forests forked their way along the prairie rivers, spreading out into the grasslands on each side of the waterways. Occasionally there were groves of trees which stood out like islands in the miles of prairie. Such groves are reflected in the place-names of many small Illinois communities.

The prairie landscape did not come to Illinois until after the state had been covered by glaciers. With the receding of the last ice age, the surface of the state was left covered with clay, small rocks, and boulders deposited by the glaciers. Because the ice packs had moved unevenly over the land, the surface was gently rolling and contained many depressions which soon became lakes. In some areas, there were also large deposits of sand.

Prairie plants did not emerge immediately. The earliest vegetation on the denuded landscape was probably mosses, lichens, and small grasses and sedges much like those which inhabit the Alaskan and Canadian tundra today. Later came the northern spruce-fir forest, which was then replaced by the familiar deciduous hardwood forests of today. But in about two-thirds of Illinois, the upland areas became covered by tall grasses rather than trees. This was probably due to a post-glacial dry period which was not favorable for the growth of trees.[2]

The shallow lakes had abundant aquatic plants growing in them, which decayed and slowly filled them in. Thus large sloughs and some peat bogs were created. As the lakes continued to fill, they were better drained, and the vegetation in them changed still further. "Slough Grass" gave way to Switch Grass and finally to Big Bluestem--the indicator of true prairie.

On the upland areas, Little Bluestem was the first prairie pioneer. Later, it was crowded out in many places by the taller "Turkey-foot" (another local name for Big Bluestem). Some of the sand deposits became forested, but a large part of them were also covered by prairie plants. The pioneer plants here, however, were not characteristic of tall-grass prairie. Instead, there were short grass species similar to those in the sand hills of Kansas and Nebraska. These grasses stabilized the sandy soil, and protected it from wind. As soil conditions improved, Little Bluestem crowded out most of the pioneer plants. As the bluestem created more humus and richer soil, it in turn gave way to Big Bluestem.

When the settlers first arrived, all gradations of prairie--from pioneer to climax stage--could still be found. Big Bluestem, growing to heights of 10 and 12 feet, made life difficult for the settlers in many ways. They were unable to move easily through it on horseback, and their cattle were "swallowed up" in its immensity. In summer, the humidity and biting flies were very bad. The sod was so thickly matted with roots that it was difficult to break for planting crops.

"Sod-busters" charged $2 an acre to break the tough prairie sod with a large iron plowshare pulled by a team of oxen. Soil stuck to the iron share and made the work slow and laborious. By the time John Deere developed an improved steel plow, the prairie sod was mostly broken. By the late 1800's, the "Grand Prairie" had all but disappeared.

Prairie plants were extremely well-adapted for their environment. Because most were perennials, they developed deep, long-lived roots which were able to withstand both drought and fire. It was not uncommon for prairie plants to have roots that went 15 to 20 feet into the soil. This root system, which had helped them live in a sometimes hostile environment for millenia, could not save them from destruction when the prairie sod was broken. Once the plow destroyed their root systems, the native grasses and forbs were doomed.

If plowing had stopped, the remaining plants around the plowed areas could have re-seeded and re-established the prairie. But once the richness of the soil was discovered, the plowing did not end. In fact, it has not ended today. Even yet there are tiny remnants of prairie in Illinois--and here in Vermilion County--that are in danger of being plowed and added to the margin of an already-existing corn or bean field. For the rich prairie soil now

feeds the nation. Illinois, the "Prairie State", was once 75% to 80% tall-grass prairie; today, less than one-half of one percent remains.

Here in Vermilion County, the prairie covered areas on all sides of our rivers. From the writings of Chester A. Loomis, we can gain a glimpse of what early life here was like. Loomis traveled through our county in 1825, and described his journey in a publication entitled "A Journey on Horseback Through the Great West."

"The Grand Prairie appeared to the north and west boundless as the ocean. . . .We pursued a southwestern course along the southern border of the prairie. After traveling two or three miles, we observed at our left hand some girdled trees. In the anxious hope of finding shelter and refreshment for the night, we bent our course for them, and within a mile arrived at the house of a North Carolinian. We here had good accommodations. It was most fortunate, as we learned that this was the only habitation within 20 miles."

Loomis continued the next day:

"We again entered the Grand Prairie and were soon many miles from any timbered lands, and upon a tract of country apparently as level as the surface of a lake, without a single shrub or bush to intercept the view, either to the east, north or west, as far as the eye could reach. On the south a distant view is had of the forest, which is in that direction and is the boundary of this immense plains.

Occasionally a rock of some magnitude is seen, but no small stone whatever is found. The soil is deep and rich, covered with grass and flowers, which grow up, blossom and decay without affording even to the industrious bee their sweets. As the sun arose toward its meridian, its rays were felt with the same power as from the smooth surface of a lake.

Our horses were assailed by a species of fly different than any in the eastern or middle states. They are the size of less than the common ox-fly in New York; have brilliant green heads, and a quick, rapid motion. They rise from the grass before a horse as he travels along, dart upon his head, neck or breast, and suck their fill of blood almost immediately."

Loomis described the area near present-day Danville as follows:

"In the afternoon we rode a few miles through a tract of the finest timbered land I have ever seen. Here are some small, but durable streams of water. The land slopes gently to the south, sufficiently to produce a rapid current to its streams, which are clear and pure. Its timber is black walnut, black and white oak, maple, blue ash, buckeye and pawpaw. The richness, strength and fertility of soil exceeds any I have ever seen. Here is a large body of land of the same description, entirely unsettled, and is now in market at the Government Land Offices for $1.25 per acre. After passing this beautiful tract of timbered land, we again entered a prairie of some extent, and crossed the Vermilion River at the forks."

Loomis visited the salt works on the banks of the Vermilion and wrote about the saline wells. He also described the Vermilion River and surrounding countryside, commenting on the abundance of game and the lack of inhabitants. He continued to be amazed at the thick growth of prairie grass which grew

"so thick and close as to impede the progress of a horse. Prairies of unknown extent spread to the west. The plains, with or without timber, are alike in the surprising richness and fertility of their soils."

On June 29th, 1825, Loomis continued south in Vermilion County in the direction of Paris:

"During this day I rode southwardly in the Grand Prairie upwards of thirty miles. The heat was excessive, and prairie flies assailed my horse as if they would destroy him. These flies are not found in timbered lands, and I found it necessary to avoid the open country as much as possible.

In the course of the day, one or two cabins were seen, and I passed a few cultivated fields of corn and wheat without any kind of fence or enclosure. Near the borders of the timbered lands, immense numbers of wild turkeys, deer, etc., were feeding."

Loomis continued his journey through York, "Allison's Prairie", "Union Prairie", Palestine, Shaker Mills, Vandalia, and on toward Missouri. Throughout his notes he complained of the dreaded prairie flies which constantly attacked his horse. His narrative of life in our area in 1825 gives us some insight into the early prairie landscape.[3]

Railroad Prairies

Remnants of prairie along railroad rights-of-way are representative of the so-called "flat land prairies". These original prairies were fairly level, but their topography over a wide area varied as much as five feet. Some low areas allowed water to accumulate, and vegetation patterns show that certain prairie plants preferred "high, dry" locations, and others favored low, wet spots.

Railroads initially destroyed some of the prairie as roadbeds were laid down. But plants along the right-of-way were then left alone for a long time, and the prairie communities soon re-colonized. Sparks from early locomotives probably helped to keep shrubs and brush from crowding out the native plants, as fires along rights-of-way were common.

The coming of railroads spelled doom for the prairie in another way, as they made the transportation of grain much easier, and so encouraged more agriculture in the already-dwindling tall-grass communities through which they passed. It seems ironic that the railroads helped destroy the prairie landscape, yet have also preserved for us some of the last remaining remnants of the original Grand Prairie.

In our search for local prairie communities, we found some railroad prairies worthy of study and preservation. The largest is located on the Penn-Central (now Con-rail) right-of-way between Oakwood and the Champaign County line, a distance of about 5 1/2 miles. Another nice remnant is located on the L & N railroad right-of-way north of Bismarck and is about 2 miles in length. A smaller and more disturbed railroad prairie remains along the

C & E I right-of-way between Sidell and Allerton. One mile west of Rankin, a stretch of the Norfolk & Western railroad tracks has a prairie remnant which includes Prairie Gentian, Spiderwort, Sullivant's Milkweed, Purple Prairie Clover and Lythrum alatum. Just south of this area, the Pelleville Cemetery prairie has been preserved. It is managed by Northeastern Illinois University, and the Grand Prairie Friends.

A remnant which includes Pale Purple Coneflower survives along the L&N railroad north of Hoopeston at the Vermilion County line. Unfortunately, it is gradually being destroyed by railroad maintenance.

Along the Norfolk & Western tracks, two miles east of Hoopeston, railroad maintenance continues to degrade a remnant which once included Prairie Gentian, Prairie Anemone, Cream Indigo, Sweet Coneflower, White Prairie Clover and Birdfoot Violet. (There are also scattered patches of Big Bluestem along the Penn-Central tracks running south on the west side of Belgium and Westville, but these are not large enough or diverse enough to be significant).

We began identifying prairie plants along the Penn-Central prairie in 1972, and have continued to visit it periodically each year. In 1976, the Vermilion County Conservation District contacted P-C officials and arranged a garden lease to insure preservation of the area, and to give us official use of the area for seed collecting for our prairie restoration site at Forest Glen Preserve. We collected seed each year, always allowing much seed to remain for continuation and growth of the railroad prairie.

In the summer of 1977, disaster struck. Con-rail, which had now taken over the Penn-Central operation, began a major road-bed "clean-up campaign". Without our prior knowledge, and violating the terms of the garden lease, railroad crews bulldozed and scraped nearly the entire length of the railroad prairie. In spite of efforts by ourselves and the Conservation District, the garden lease was ignored and the "clean-up" work continued. Signs marking areas as "Under Lease, Do Not Disturb" were not recognized.

Much of the prime prairie area was badly damaged or entirely destroyed. We were able to salvage some sod which had been uprooted by the machinery. We do know that the Oakwood-Fithian railroad prairie has been greatly reduced in size and quality. As of this writing, the railroad continues to spray and use heavy equipment to maintain the tracks. The remaining prairie plants are struggling to survive. A good prairie remnant in 1977, with Vermilion County's only known populations of Wild Hyacinth and Gentiana flavida (Yellow Gentian), has

suffered from railroad maintenance. White Indigo, Yellow Gentian, and Swamp Milkweed have been destroyed by a herbicide program. Other prairie vegetation was stunted, some species did not bloom, others did not set seed. The railroad bed was widened and so narrowed the prairie strip that it can scarcely maintain itself. So before our study is completed, and while a seed source is yet needed, this prairie is about to be overcome by Eurasian weeds and woody vegetation. The following species list contains those plants which occurred prior to the disturbance.

Flora of Oakwood-Fithian RR Prairie

Amorpha canescens	Leadplant
Andropogon gerardi	Big Bluestem
Andropogon scoparius	Little Bluestem
Anemone cylindrica	Prairie Thimbleweed
Angelica atropurpurea	Purple-stemmed Angelica
Asclepias incarnata	Swamp Milkweed
Asclepias sullivantii	Sullivant's Milkweed
Asclepias tuberosa	Butterfly Weed
Asclepias verticillata	Whorled Milkweed
Aster azureus	Azure or Sky-blue Aster
Aster eriocoides	Heath Aster
Aster laevis	Smooth Blue Aster
Aster novae-angliae	New England Aster
Cassia fasciculata	Partridge Pea
Ceanothus americanus	New Jersey Tea
Comandra richardsiana	Bastard Toadflax
Coreopsis tripteris	Tall Coreopsis
Desmodium canadense	Showy Tick Trefoil
Dodecatheon meadia	Midland Shooting-star
Echinacea pallida	Pale Purple Coneflower
Elymus canadensis	Canada Wild Rye
Erigeron strigosus	Daisy Fleabane
Euphorbia corollata	Flowering Spurge
Fragaria virginiana	Wild Strawberry
Gaura biennis	Biennial Gaura
*Gentiana puberula	Downy Gentian
Helianthus rigidus	Prairie or Stiff Sunflower
Helianthus mollis	Downy Sunflower
Hypoxis hirsuta	Yellow Star-grass
Iris virginica shrevei	Wild Blueflag, or Blue Iris
Lespedeza capitata	Round-headed Bush Clover
Liatris pycnostachya	Prairie Blazing-star
Lithospermum canescens	Hoary Puccoon
Lysimachia quadriflora	Narrow-leaved Loosestrife
Lythrum alatum	Winged Loosestrife

Monarda fistulosa	Wild Bergamot
Panicum virgatum	Switch Grass
Parthenium integrifolium	Wild Quinine
Phlox glaberrima interior	Smooth or Marsh Phlox
Phlox pilosa	Downy or Prairie Phlox
Physostegia virginiana	False Dragonhead
Pycnanthemum tenuifolium	Slender-leaved Mountain Mist
Pycnanthemum virginianum	Common Mountain Mint
Ratibida pinnata	Prairie or Gray-headed Coneflower
Rosa carolina	Prairie or Pasture Rose
Rudbeckia hirta	Hairy Coneflower or Brown-eyed Susan
Ruellia humilis	Hairy Ruellia
Silphium integrifolium	Rosinweed
Silphium laciniatum	Compass-plant
Silphium terebinthinaceum	Prairie Dock
Sisyrinchium albidum	Pale Blue-eyed Grass
Solidago altissima	Tall Goldenrod
Solidago graminifolia	Narrow-leaved Goldenrod
Solidago juncea	Early Goldenrod
Solidago rigida	Stiff Goldenrod
Sorghastrum nutans	Indian Grass
Spartina pectinata	Prairie Cord Grass, Sloughgrass
Sporobolus heterolepsis	Northern or Prairie Dropseed
Stipa spartea	Porcupine Grass or Needle Grass
Tradescantia ohiensis	Ohio Spiderwort
Veronica fasciculata	Common Ironweed
Veronicastrum virginicum	Culver's-root
Viola pedatifida	Prairie Violet
Zizea aurea	Golden Alexanders

*Now believed extinct here

Flora of L&N Railroad Prairie

Andropogon gerardi	Big Bluestem
Andropogon scoparius	Little Bluestem
Asclepias incarnata	Swamp Milkweed
Asclepias sullivantii	Sullivant's Milkweed
Aster novae-angliae	New England Aster
Baptisia leucantha	Wild White Indigo
Camassia scilloides	Wild Hyacinth
Ceanothus americanus	New Jersey Tea
Comandra richardsiana	Bastard Toadflax
Coreopsis tripteris	Tall Coreopsis
Desmodium canadense	Showy Tick Trefoil
Dodecatheon meadia	Midland Shooting-star
Elymus canadensis	Canada Wild Rye

Erigeron yuccifolium	Rattlesnake Master
Euphorbia corollata	Flowering Spurge
Fragaria virginiana	Wild Strawberry
Gentiana flavida	Yellow Gentian
Helianthus grosseserratus	Saw-toothed Sunflower
Helianthus mollis	Downy Sunflower
Lespedeza capitata	Round-headed Bush Clover
Liatris pycnostachya	Prairie Blazing-star
Lilium michiganense	Turk's-cap Lily
Lobelia spicata	Pale Lobelia
Lythrum alatum	Winged Loosestrife
Monarda fistulosa	Wild Bergamot
Panicum virgatum	Switch Grass
Parthenium integrifolium	Wild Quinine
Pedicularis canadensis	Wood Betony
Phlox glaberrima	Smooth Phlox
Phlox pilosa	Prairie Phlox
Polygonatum canaliculatum	Great Solomon's Seal
Psoralea onobrychis	French Grass
Pycnanthemum virginianum	Mountain Mint
Ratibida pinnata	Prairie Coneflower
Rosa carolina	Prairie Rose
Rudbeckia hirta	Hairy Coneflower or Brown-eyed Susan
Silphium integrifolium	Rosinweed
Silphium laciniatum	Compass-plant
Silphium terebinthinaceum	Prairie Dock
Solidago rigida	Stiff Goldenrod
Sorghastrum nutans	Indian Grass
Spartina pectinata	Prairie Cord Grass
Spirea alba	Meadowsweet
Taenidia integerrima	Yellow Pimpernel
Thalictrum dasycarpum	Tall Meadowrue
Tradescantia ohiensis	Ohio Spiderwort
Veronia fasciculata	Common Ironweed
Veronicastrum virginicum	Culver's-root
Zizea aurea	Golden Alexanders

Flora of Sidell-Allerton RR Prairie

Andropogon gerardi	Big Bluestem
Asclepias incarnata	Swamp Milkweed
Asclepias sullivantii	Sullivant's Milkweed
Asclepias syriaca	Common Milkweed
Asclepias tuberosa	Butterfly Weed
Asclepias verticillata	White Milkweed
Cassia fasciculata	Partridge Pea
Ceanothus americanus	New Jersey Tea
Desmodium canadense	Showy Tick Trefoil
Erigeron strigosus	Daisy Fleabane
Erigeron yuccifolium	Rattlesnake Master

Elymus canadensis	Canada Wild Rye
Euphorbia corollata	Flowering Spurge
Helianthus mollis	Downy Sunflower
Iris virginica shrevei	Wild Blueflag, or Wild Blue Iris
Lespedeza capitata	Round-headed Bush Clover
Monarda fistulosa	Wild Bergamot
Petalostemum purpureum	Purple Prairie Clover
Phlox glaberrima interior	Marsh Phlox
Pycnanthemum sp.	Mountain Mint
Ratibida pinnata	Prairie Coneflower
Rosa carolina	Prairie Rose
Rudbeckia hirta	Hairy Coneflower or Brown-eyed Susan
Ruellia humilis	Hairy Ruellia
Silphium laciniatum	Compass-plant
Silphium terebinthinaceum	Prairie Dock
Spartina pectinata	Cord Grass
Teucrium canadense	American Germander
Tridens flavus	Purple-top
Veronicastrum virginicum	Culver's-root
Viola pedatifida	Prairie Violet

A typical railroad prairie remnant.

Hill Prairies

Hill prairies occur along the bluffs of major rivers in Illinois, on sunny windswept slopes. They appear as openings in otherwise wooded bluff-tops. Hill prairies have been extensively studied along the Mississippi, Illinois, Rock, Sangamon, Fox and Cache rivers, and along smaller streams. Dr. Robert Evers, formerly with the Illinois Natural History Survey, made a 20-year comparison study of sixty-one hill prairies in Illinois.

In his study, he found that all of the hill prairies had changed during the 20-year period, and that several had been invaded by shrubs and trees. He attributed much of the change to climatic conditions over the two decades which apparently favored forest rather than prairie vegetation.[4]

We found two very fine hill prairies in Vermilion County. Windfall Prairie is located on bluffs along the Middlefork River, and is about thirty acres in size when including adjoining woods (which have some prairie species invading). Exposed bluffs probably contain about ten acres. This prairie is unique in geology, as well as in flora. Because it has active tufa deposits and seep springs, it contains plants of "alkaline fens". Alkaline fens are very specialized wet prairies which have a flow of water containing calcium and magnesium salts. Plants found there, such as Indian-plantain, Grass-of-Parnassus and Marsh Betony, are not found in other prairie remnants.

Windfall Prairie has a rich variety of plants on its eroding bluffs. In spite of dry, gravelly soil, such plants as Purple Coneflower, Butterfly Weed, Purple Prairie Clover, and three species of blazing-stars manage to survive. The first county record of Leadplant was on Windfall Prairie. Despite natural erosion and invasion by Red Cedars, this hill prairie remains one of the most valuable and outstanding prairie remnants in Vermilion County. The area in which the prairie is located is owned by the V.C.C.D., and is a dedicated Illinois Nature Preserve. It is surrounded by a buffer zone, and access is limited. A management program has been implemented. Included here is a list of all species identified in our studies up to this time:

Amorpha canescens	Leadplant
Andropogon gerardi	Big Bluestem
Andropogon scoparius	Little Bluestem
Angelica atropurpurea	Purple-stemmed Angelica
Antennaria sp.	Pussytoes
Apocynum cannabinum	Indian Hemp, Dogbane

Aquilegia canadensis	Columbine
Asclepias tuberosa	Butterfly Weed
Asclepias verticillata	Whorled Milkweed
Aster azureus	Sky-blue Aster or Azure Aster
Aster laevis	Smooth Aster
Aster praealtus	Willow Aster
Bouteloua curtipendula	Side-oats Grama
Cacalia tuberosa	Tuberous Indian-plantain
Cassia fasciculata	Partridge Pea
Castilleja sessiliflora	Indian Paintbrush
Ceanothus americanus	New Jersey Tea
Cirsium muticum	Swamp Thistle
Comandra richardsiana	Bastard Toadflax
Convovulus sp.	Bindweed
Coreopsis tripteris	Tall Coreopsis
Desmodium canadense	Showy Tick Trefoil
Echinacea pallida	Pale Purple Coneflower
Elymus canadensis	Canada Wild Rye
Equisetum arvense	Common Horsetail
Erigeron strigosus	Daisy Fleabane
Euonymus obovatus	Running Euonymus, Strawberry-bush
Euphorbia corollata	Flowering Spurge
Fragaria virginiana	Wild Strawberry
Gentiana quinquefolia	Stiff Gentian
Gerardia tenuifolia	Slender False Foxglove
Heuchera richardsonii grayana	Midland Alumroot
Hypericum perforatum	Common St. John's-wort
Hypoxis hirsuta	Yellow Star-grass
Juniperus virginiana	Red Cedar
Krigia biflora	Two-flowered Cynthia, False Dandelion
Lactuca canadensis	Tall Wild Lettuce
Lespedeza capitata	Round-headed Bush Clover
Liatris aspera	Rough Blazing-star
Liatris cynlindracea	Cylindric Blazing-star
Liatris pycnostachya	Prairie Blazing-star
Linum sulcatum	Yellow Flax
Lithospermum canescens	Hoary Puccoon
Lobelia spicata	Pale Lobelia
Lonicera prolifera	Glaucous Honeysuckle
Lysimachia quadriflora	Narrow-leaved or Whorled Loosestrife
Melilotus alba	White Sweet Clover
Mentha piperita	Peppermint
Oxalis violacea	Violet Wood Sorrel
Oxypolis rigidior	Cowbane
Panicum virgatum	Switch Grass
Parnassia glauca	Grass-of-Parnassus
Parthenium integrifolium	Wild Quinine

Pedicularis canadensis	Wood Betony, Lousewort
Pedicularis lanceolata	Swamp Betony
Penstemon digitalis	Penstemon, Bear tongue
Petalostemum purpureum	Purple Prairie Clover
Phlox pilosa	Prairie Phlox
Polygonatum canaliculatum	Great Solomon's Seal
Pycnanthemum tenuifolium	Slender-leaved Mountain Mint
Pycnanthemum virginianum	Common Mountain Mint
Rosa carolina	Prairie Rose
Rudbeckia hirta	Hairy Coneflower, Brown-eyed Susan
Senecio aureus	Golden Ragwort
Silphium perfoliatum	Cup-plant
Silphium terebinthinaceum	Prairie Dock
Sisyrinchium albidum	Pale Blue-eyed Grass
Smilacena stellata	Starry False Solomon's Seal
Solidago ohioensis	Ohio Goldenrod
Solidago rigida	Stiff Goldenrod
Solidago speciosa	Showy Goldenrod
Sorghastrum nutans	Indian Grass
Spiranthes cernua	Nodding Ladies' Tresses
Viola falcata	Three-lobed Violet

Windfall Prairie--an outstanding hill prairie.

Orchid Hill is the other remaining hill prairie in Vermilion County which is both a significant and unique natural remnant. Orchid Hill contains flat uplands and steep, northeast-facing slopes similar in topography to those of Windfall Prairie. They are not along the river, but rise above partly forested bottomland.

Orchid Hill also has seep springs and seepage areas, but is best known for its outstanding collection of native orchids. A large colony of Yellow Ladies'-slipper grows here, as well as Twayblade Orchid, Late Coral-root, and the Long-bracted Orchid. The latter two species are in a habitat considered unusual for their growth requirements. The Coral-root was unknown to Illinois' southeastern drainage system before its discovery at Orchid Hill. This site is the southern-most locality in the state for the Long-bracted Orchid, which generally grows in more northern climates.

The woods and bluffs of Orchid Hill comprise an area of about 50 acres. In 1970, the area contained the largest stand of Birdfoot Violet that we know of in Vermilion County, as well as Indian Paintbrush, Bastard Toadflax, and other unusual prairie species. By 1987, the Birdfoot Violet had diminished in numbers, but the Yellow Ladies'-slipper colony was expanding, especially on the eastern slope. The following list indicates all of the species found by ourselves and observers from the Illinois Nature Preserves Commission during studies at Orchid Hill:

Achillea millefolium	Yarrow
Actaea pachypoda	Baneberry
Allium sp.	Wild Leek
Andropogon scoparius	Little Bluestem
Angelica atropurpurea	Purple-stemmed Angelica
Antennaria sp.	Pussy-toes
Aquilegia canadensis	Columbine
Arisaema triphyllum	Jack-in-the-Pulpit
Aster cordifolius	Heart-leafed Aster
Aster ericoides	Heath Aster
Aster laevis	Smooth Aster
Aster novae-angliae	New England Aster
Baptisia leucantha	Wild White Indigo
Botrychium virginianum	Rattlesnake Fern
Castilleja sessiliflora	Indian Paintbrush
Ceanothus americanus	New Jersey Tea
Celastrus scandens	Bittersweet
Chrysanthemum leucanthemum	Ox-eye Daisy
Cladonia sp.	Reindeer Moss
Comandra richardsiana	Bastard Toadflax

Conopholis americana	Squaw-root
Coreopsis tripteris	Tall Coreopsis
Cornus florida	Flowering Dogwood
Cypripedium parviflorum	Yellow Lady's-slipper
Equisetum arvense	Common Horsetail
Erigeron strigosus	Daisy Fleabane
Eupatorium rugosum	White Snakeroot
Fragaria virginiana	Wild Strawberry
Galium sp.	Bedstraw
Galium aparine	Cleavers, Rough Bedstraw
Gentiana quinquefolia	Stiff Gentian
Gerardia tenuifolia	Slender False Foxglove
Geranium maculatum	Wild Geranium
Habenaria bracteata	Long-bracted Orchid (1987)
Hepatica acutiloba	Hepatica
Hydrangea arborescens	Wild Hydrangea
Hypoxis hirsuta	Yellow Star-grass
Impatiens biflora	Orange-spotted Touch-me-not (Jewelweed)
Impatiens pallida	Pale Touch-me-not (Jewelweed)
Juniperus virginiana	Red Cedar
Krigia biflora	Two-flowered Cynthia
Lactuca canadensis	Tall Wild Lettuce
Lespedeza capitata	Round-headed Bush Clover
Liatris aspera	Rough Blazing-star
Liparis lilifolia	Twayblade
Lobelia spicata	Pale Lobelia
Lonicera prolifera	Glaucous Honeysuckle
Panax quinquefolius	Ginseng
Parthenocicus quinquefolia	Virginia Creeper
Pedicularis canadensis	Woody Betony, Lousewort
Penstemon digitalis	Penstemon, Beardtongue
Phlox pilosa	Prairie Phlox
Podophyllum peltatum	Mayapple
Polygala sanguinea	Field Milkwort
Polygonatum sp.	Solomon's Seal
Potentilla canadensia	Common Cinquefoil
Pycnanthemum linifolium	Slender-leaved Mountain Mint
Rhus glabra	Smooth Sumac
Ribes missouriense	Gooseberry
Rosa carolina	Prairie Rose
Rubus sp.	Blackberry
Rubus flagellaris	Dewberry
Rudbeckia hirta	Hairy Coneflower, Brown-eyed Susan
Sanguinaria canadensis	Bloodroot
Senecio aureus	Golden Ragwort
Silphium terebinthinaceum	Prairie Dock
Sisyrinchium albidum	Pale Blue-eyed Grass
Smilacina racemosa	False Solomon's Seal

Solidago caesia	Blue-stemmed Goldenrod
Solidago erecta	Slender Goldenrod
Solidago patula	Spreading Goldenrod
Sorghastrum nutans	Indian Grass
Taenidia integerrima	Yellow Pimpernel
Thalictrum diocicum	Early Meadow Rue
Tradescanthia ohiensis	Ohio Spiderwort
Uvularia grandiflora	Bellwort, Merrybells
Viola papilionacea	Blue Violet
Viola pedata	Birdfoot Violet

Birdfoot Violet in bloom at Orchid Hill.

Species Noted by Other Observers

Caltha palustris	Marsh Marigold
Corallorhiza odontorhiza	Late Coral-root
Juncus brachycephalus	Rush
Orobranche sp.	Broomrape
Parnassia glauca	Grass-of-Parnassus
Selaginella sp.	Spikemoss

Pioneer Cemeteries and Other Remnants

In the early days, the settlers established small cemeteries, usually no more than 5 acres in size, in virtually every neighborhood. Many of these cemeteries have only a few graves. With improved roads and vehicles, there was a trend toward fewer and larger cemeteries, and as a result, many of the small burial grounds ceased to be actively used and cared for. People considered them dedicated cemeteries so they were exempt from taxes and they were kept fenced off from grazing and farming. As a result of being thus set aside, some of these areas remain to the present day with the original prairie vegetation almost undisturbed. They are like small islands of natural vegetation in a vast expanse of corn and soybeans.

Because of the extreme scarcity of undisturbed rich soil prairie vegetation, the remaining cemetery prairies have very great value as refuges for rare and endangered species and as places of scientific interest. They are likewise of historic interest, since they portray the character of the countryside at the time of settlement.

The cemeteries that are of value as prairie preserves have been neglected and practically forgotten for about 100 years. Those that were cared for were mowed, and with mowing the prairie vegetation was gradually replaced by bluegrass and other non-native plants.[5]

In 1976, the Illinois Natural Areas Inventory conducted a state-wide survey of pioneer cemeteries. A total of 3,923 were checked for prairie vegetation, and 27 were considered to be of "high natural quality". The inventory team felt that all others could be restored to reasonable quality with some management.

The Fairchild Cemetery, located in Blount Township southeast of Indian Springs Farm, was one of the 27 significant prairies of high quality selected by the survey team. It is currently being managed by the VCCD and the Vermilion County Audubon Society, under the direction of Doris Westfall. The cemetery has been dedicated as part of the Illinois Nature Preserves System.

Two other county cemeteries visited by Mrs. Westfall showed good potential for restoration in 1977. The Leonard Cemetery on Bowman Avenue Road had Big Bluestem and Indian Grass remnants. The Rose Cemetery, located one mile southeast of Bismarck, had remnants of Little Bluestem, Big Bluestem and Indian Grass. Both

cemetery boards were contacted concerning possible restoration, but had no interest. Today, both are mowed regularly.

Exploring Fairchild Cemetery, now dedicated as a nature preserve.

Flora of Fairchild Cemetery

Andropogon gerardi	Big Bluestem
Antennaria plantaginifolia	Pussytoes Plantain
Aster novae-angliae	New England Aster
Aster drummondii	Drummond's Aster
Aster pilosus	Hairy Aster
Cassia fasciculata	Partridge Pea
Ceanothus americanus	New Jersey Tea
Cornus racemosa	Gray Dogwood
Corylus americana	Hazelnut
Desmodium canadense	Showy Tick Trefoil
Eupatorium altissimum	Tall Boneset
Euphorbia corollata	Flowering Spurge
Fragaria virginiana	Wild Strawberry
Gaura biennis	Gaura
*Habenaria lacera	Green Fringed Orchid
Helianthus rigidus	Stiff Sunflower

Helianthus divaricatus	Woodland Sunflower
Lespedeza virginica	Slender Bush Clover
Liatris aspera	Rough Blazing-star
Melilotus alba	White Sweet Clover
Monarda fistulosa	Wild Bergamot
Panicum virgatum	Switch Grass
Parthenium integrifolium	Wild Quinine
Penstemon digitalis	Beard-tongue
Phlox pilosa	Prairie Phlox
Physostegia virginiana	False Dragonhead
Poa pratensis	Kentucky Bluegrass
Potentilla simplex	Common Cinquefoil
Psoralea onobrychis	French Grass
Pycnanthemum flexuosum	Narrow-leaved Mountain Mint
Ratibida pinnata	Prairie Coneflower
Rosa Carolina	Pasture Rose
Solidago altissima	Tall Goldenrod
Solidago juncea	Early Goldenrod
Solidago nemoralis	Field Goldenrod
Solidago speciosa	Showy Goldenrod
Sorghastrum nutans	Indian Grass
Vernonia missurica	Missouri Ironweed

*Marlin Bowles 1982

An area north and east of Stump Cemetery contains isolated stands of several prairie forbs, including Rough Blazing-star, Rattlesnake Master, Wild Quinine, and Prairie Dock. The area is adjacent to the Middlefork Fish and Wildlife Area, but is under private ownership.

Aside from cemeteries, there are several other small remnants of prairie vegetation scattered throughout the county. Kickapoo State Park has a circular area, about three acres in size, in the northwest corner of the old C.C.C. area which was visited by Doris Westfall in 1971. At that time, she noted a dozen prairie species in the area, including Indian Grass, Little Bluestem, Tall Dropseed, Purple-top, Wild Rye, Hairy Ruellia, Partridge Pea and Tall Goldenrod. The area had been mowed and heavily disturbed.

With the cooperation of park officials, Mrs. Westfall seeded the area in 1972 and 1973 with eleven prairie species: Big Bluestem, Mountain Mint, Showy Goldenrod, New England Aster, Wild Bergamot, Brown-eyed Susan, Prairie Dock, Rattlesnake Master, Culver's-root, Prairie Coneflower and Sullivant's Milkweed. As of this writing, the area is increasing in size and several species have proved successful. It is now under management by I.D.O.C.

Several small remnants are located in Kennekuk County Park and on state-owned land along the Middlefork River. The Little Bluestem Prairie, located southwest of the VCCD headquarters building in Kennekuk Cove, is

one of the finest stands of Little Bluestem in the county. Over the past ten years, it has spread extensively toward the new park road. A few other prairie plants such as Mountain Mint, New Jersey Tea, Showy Goldenrod, and Flowering Spurge, also occur there.

Just east of the Hickory Hollow picnic area in the park is a small but interesting area which has Rough Blazing-star, New Jersey Tea, French Grass, Hazelnut, Autumn Ladies' Tresses, Showy Goldenrod, Little Bluestem, Wild White Indigo, Mountain Mint, Prairie Rose, Maxmillian Sunflower, Green Milkweed, and Butterfly Weed. Because of its species diversity and close proximity to the woodland, it is being managed as a prairie-savanna.

Two fields are also under management as potential prairie. One is located south of the park visitor center and includes a small prairie garden. The other field is located east of the Hickory Hollow road prairie mentioned above. Conservation District staff is assisting with the management of the Kennekuk County Park areas.

Other areas include 13 acres of woods and prairie north of Blount Road along the Middlefork River, a tiny 30 foot by 100 foot remnant of Big Bluestem on a site owned by Illinois Power Company, and a 12-acre Indian Grass prairie on a terrace along the Middlefork north of the former Bunker Hill Bridge site. These areas have been visited once or twice, but no preliminary flora lists were made.

Prairie Coneflower in full bloom.

Prairie Restoration Project

In the summer of 1972, Doris Westfall began searching for native prairie species along the Penn-Central Railroad right-of-way, and located many different grasses and forbs. Seed was collected that autumn for use in a restoration project at Forest Glen County Preserve near Georgetown. Some of the seed was used in a germination project, conducted by a volunteer at the Danville Veteran's Administration Medical Center in February of 1973. Untreated, dry seeds of 15 species were planted in flats. The results were as follows:

	Seeds planted	Seedlings
Big Bluestem	100	6
Little Bluestem	50	0
Indian Grass	80	20
Switch Grass	100	0
Cord Grass	50	0
Wild Rye	50	10
Bush Clover	30	0
Blazing-star	30	1
Purple Coneflower	30	0
Rattlesnake Master	30	2
Compass-plant	30	1
Prairie Rose	10	0
Mountain Mint	50	0
Yellow Coneflower	30	0
Rosinweed	30	0

Plans were made for dry, cold-stored seeds to be planted, but the supervisor was transferred and seeds didn't get planted until July. A check, one week after planting, showed grasses coming up, then the flats were inadvertantly destroyed. After several unsuccessful germination study attempts, and no local green house facilities, we went to direct seeding using an abundance of seed.

1973

On June 13, 1973, the restoration project began on an old field on the southern edge of the preserve. The area had been denuded of topsoil earlier, and the soil conditions were very poor. An area of about five acres was disked, and seeding began. Three different commercial seeders were tried, but all were unsuccessful because the native seed was too chaffy. Therefore, the entire area was seeded by hand, using a mixture of 60% grasses and

40% forbs and legumes. A nurse crop of oats was also sown and the area was strawed to help retain moisture and prevent excessive blowing of seed and soil.

At the same time, a garden plot of several rows was laid out for raising a variety of prairie species under close supervision. This area would serve to help us in identifying the tiny plants, and later would be an educational exhibit for park visitors. We learned, in time, that we had spaced our rows too closely, and that it is not the nature of prairie plants to stay in neat rows! By 1987, this area had been absorbed by the 1973 planting, but it remained especially valuable for seed collecting and transplants.

During the summer months, the area was constantly hand-weeded, as we had problems with such plants as Millet, Ragweed, Thistle, Cocklebur and Cottonwood. On June 23, we transplanted Cordgrass and Blueflag into the restoration area. The Cordgrass was from the C&EI right-of-way near Sidell, and the Blueflag from an area just east of Forest Glen. These transplants were quite successful.

In September of 1973, the first fruits of our work were seen: three Indian Grass plants bloomed (two in the garden plot, one in the field), and several Partridge Pea plants flowered. During the month of October, we and a few volunteers collected several pounds of seed from the Penn-Central right-of-way for seeding the following spring. The seed was sorted, and placed in dry, cold storage for the winter.

Today, this original planting resembles original prairie, and contains more than 50 species. By the mid-1980's, the five tall grasses were fairly well established in this area. Indian Grass and Big Bluestem are dominant, with Cord Grass and Switch Grass digging in. The latter two are slower because of dry periods and poor soil. Patches of Canada Wild Rye are scattered. There are also scattered patches of Little Bluestem, with occasional plants of Northern Dropseed and Side-oats Grama. The sedges are established in wetter areas.

Originally, this area was planted in a ratio of 60% grasses and 40% forbs. There were 33 species planted. In places, the forbs have decreased while the grasses increased beyond the original ratio. Three prairie shrubs are present: New Jersey Tea, originally introduced from salvaged sod; Prairie Rose, growing from seed and increasing by rhizomes; and Leadplant, which is increasing by seeding itself.

In 1985, Shooting-star bloomed in this area, 11 years after it was seeded! 1987 marked the 14th growing season for this planting. It is almost weed-free, with more than 50 species of prairie plants. There are good

populations of Yellow Coneflower, Yuccifolium, Coreopsis, Purple Coneflower, Mountain Mint, Monarda, Bush Clover, White Indigo, four species of Sylphium, Helianthus, and strawberry. There are fair numbers of Pale Lobelia, Physostegia, Tradescantia, Blue-eyed Grass, Birdfoot Violet (26 plants), Downy Phlox, Purple Prairie Clover, Liatris, New England, Heath and Smooth Asters. The Prairie Violet, Puccoon, Shooting-star and Yellow Star-grass are present in small numbers. Indian Paintbrush and Commandra are rare, but doing well. Four plants which appear to be lost in this area for the time being include Cacalia tuberosa, Spring Cress, Closed Gentian and a Fall-blooming Orchid. In 1989, however, two small patches of Wild Hyacinth bloomed--12 years from seed to flower!

Today, the prairie plants are digging in and spreading in the lower third (wettest) area of this planting, holding moisture and improving the soil. Plants that need more moisture and have been lost to dry conditions in other plantings will be re-introduced here. We continue to add small things by seed: Thimble Anemone, Prairie Lettuce, Prairie Gentian, Cream Indigo, Purple Clover, and Turk's-cap Lily. A small patch of the bi-color Birdfoot Violet is spreading.

Hand-seeding the original prairie restoration area in 1973.

1974

On January 9, 1974, the Vermilion County Conservation District Board of Trustees authorized the leasing of the Penn-Central right-of-way. We felt this to be a major step toward prairie preservation, and it also assured us of a good source of seed for continuing the restoration project.

On April 16, a fire break was disked around our original planting, and we burned off an additional two acres to the northeast. This area was hand-seeded and then harrowed. Blackbirds descended on the area in large numbers, and stayed several days. We wondered if any seed would remain to germinate and grow!

Plants did come up, along with many weeds, and once again hand weeding was necessary to control Wild Garlic, Canada Thistle, and other pest species. The area had ideal growing conditions that spring, however, and now contains 25 species of prairie plants, and it is the most natural-looking of all of the seeded plots. During June and July, we collected seeds of the spring-flowering species to be seeded later.

Hand-weeding is hard work, but still the best way to encourage young prairie plants and control weeds.

On July 10, 1974, the first Prairie Coneflowers bloomed in the original planting area and garden plot. We feel that Prairie Coneflower is great for the morale of restoration workers--it is attractive, grows quickly, is easy to

recognize, and gives lots of encouragement! Later in the month, Prairie Blazing-star and Canada Wild Rye also bloomed.

Late July brought a drought, and on July 30 and August 1 we rigged up an irrigation system in an attempt to save our seedlings. (The prairie area contains a horseshoe-shaped pond which was our water source). Fortunately, rains came shortly thereafter and our efforts proved successful.)

During September and October of 1974, we collected seed from the fall-flowering grasses and forbs. In the restoration area, we now had 14 species which were well-established. These included Big Bluestem, Indian Grass, Cord Grass (by transplant), Canada Wild Rye, Prairie Dock, Compass-plant, Rosinweed, Stiff Goldenrod, Round-headed Bush Clover, Prairie Blazing-star, Rattlesnake Master, Wild Bergamot, Prairie Coneflower and Blueflag.

On October 17, some seeds of Indian Paintbrush were planted in several spots in the original planting area. This species is known to be parasitic on the roots of other plants and cannot be transplanted. We were not sure if seeding would be successful, but wanted to "try our luck". Today, this planting contains more than 50 species. The Wood Betony and Indian Paintbrush were successfully established from seed in the original planting.

Collecting seed along railroad. All seed for the Forest Glen Prairie was collected in Vermilion County.

In the spring of 1975, we continued our work on restoration. On March 6, we burned two areas along the Penn-Central right-of-way to see what effect burning would have on the prairie species there. Because of occasional marshy spots, we did not have a complete burn.

On June 23, an additional acre was added to the Forest Glen restoration project. This area was roto-tilled and hand-seeded. Before the seed could be harrowed in, a downpour of rain covered the area. Plants did grow, but in spite of the hand-weeding and mowing there were continuing problems in this area. Garlic, Daisy Fleabane, Red Clover and Timothy were abundant. We regarded this area as only "fair" for prairie plants in 1977. Today, this area includes a good stand of Switch Grass and more than 20 species. Forbs which were introduced in 1976 and 1977 have propagated successfully. Eurasian weeds continue to be a problem, and are controlled by hand-weeding.

The prairie is burned on a cyclic schedule; all areas are never burned in the same year.

During the early summer, we continued to hand-weed the original planting (particularly Cottonwood seedlings) and did some selective mowing. We also carried out a study of the L&N Railroad right-of-way, discovering nice

stands of Turk's-cap Lily and Wild Hyacinth. In August, Doris Westfall met with L&N officials concerning a lease. They denied a lease, but gave us permission to study the area and collect seed.

In October, 1975, we decided to try a fall planting in a one-acre area west of the original planting. This area was disked and hand-seeded with a mixture of 40% grasses and 60% forbs (a total of 30 species). The ground was then harrowed. Soil conditions in this area were very poor. During November, we collected our first seed from the L&N right-of-way. Heavy rains early in 1976 caused much erosion and washing of seed into the pond. Gulleys were checked with salvaged sods from the railroad and transplant sods from the prairie garden. Bare spots have been used for adding new species such as Yellow Gentian, Leadplant, Northern Dropseed, Asters, Porcupine Grass, Pale Lobelia, Indian Paintbrush, and Commandra with moderate success. The area is weed-free due to original removal of top soil and hand weeding. Forbs do not always take, (too dry for wet species) and grow slowly, but the area is convenient for additions and observations.

Leadplant in bloom at Forest Glen Prairie.

1976

On February 27, we attempted to burn off the northeast area planted in 1974. Our fire was suddenly fanned by rising winds and burned through the fence row and into an adjacent field. The wind changed direction and the fire burned off the southeast field, failing to burn the desired area! It was not a disaster, but rather a frustrating experience.

On April 5, we seeded the recently-burned southeast field with a mixture of 70% Big Bluestem and 30% forbs (40 species). The area was seeded by hand and then harrowed. We had a dry summer, and no prairie seed germinated.

During the spring and summer, we studied other areas such as Collison Marsh, and woodland bogs at Forest Glen Preserve. The Bog Twayblade, Liparis loeselii, was documented for one bog area at the preserve.

On May 24, we tried using a single application of herbicide on young Multiflora Rose seedlings and Canada Thistle plants. Our success was only fair, and we feel that it is better just to pull out the young plants. In May, we also discovered the nest of a Prairie Horned Lark in our restoration area.

The flower stalks of Prairie Dock sometimes reach 10 feet in height.

During June, the hand-weeding of Red-clover, Wild Garlic, and Cottonwood seedlings continued. On July 25, the prairie area was officially dedicated as the "Doris Lorenzen Westfall Prairie Area", as a bicentennial project of the Vermilion County Audubon Society. A beautiful stand of Prairie Coneflowers and our first Prairie Dock heralded the occasion.

On August 3, disaster struck the Penn-Central right-of-way, as previously described in this report. Large pieces of sod were salvaged which had been uprooted by the bulldozers. These transplants contained Shooting-star, Puccoon, Leadplant, Switch Grass, Wild Bergamot, Mountain Mint, and Porcupine Grass, and were transported to the Forest Glen restoration area. Spot plantings of Swamp Milkweed, Cuvler's-root, and Switch Grass were made in the 1975 planting west of the original area.

In October we collected seeds at Windfall Prairie, including those of Pale Purple Coneflower, Side-oats Grama, Butterfly Weed, and Cylindric Blazing-star. In 1977, nice rains helped the 1976 planting. Tall grasses dominated, and in 1982 and 1983, we cut this area for hay. (Cutting must be done before stems get too heavy).

Today, this area is favored by White-tailed Deer. (In an unusual development, Fox Squirrels come from a nearby hedgerow and plant walnuts in this area, which must be kept under control).

Hay made from grasses and forbs at Forest Glen in 1982 and 1983.

With the coming of spring, we burned an area west of Fithian along the Penn-Central right-of-way which had not been disturbed by the work crews. At the restoration area, a special planting of "small species" was made just south of the visitor parking area and interpretive sign. The soil in that area had been disked twice annually for two years, and had been fallow. It was hand-seeded in three parts: (1) "special seeds" from Windfall Prairie--Side-oats Grama, Cylindric Blazing-star, Pale Purple Coneflower, Purple Prairie Clover, Butterfly Weed, Leadplant, New Jersey Tea, Little Bluestem, Wood Betony, Thimble Anemone, and Showy Goldenrod. Legumes were scarified and inoculated. (2) all asters--New England, Smooth, and Sky-blue species; (3) upland forbs and grasses--Little Bluestem, Rough Blazing-star, Wild White Indigo, Mountain Mint, Wild Bergamot, New England Aster, Pasture Rose, Wild Quinine, and False Dragonhead. By summer, this area was a solid stand of Millet, and was mowed once. We checked on the Penn-Central right-of-way, and found that some areas had been totally destroyed. In other places, where bulldozing was more shallow, some prairie species were returning. Only time will tell whether or not they will survive as viable plants.

Delicate flowers of the Rough Blazing-star.

Four species of special interest bloomed for the first time in our prairie restoration area--including Pale Purple Coneflower, Wild White Indigo, Switch Grass and Indian Paintbrush. We were especially pleased at the latter two! With adequate spring and summer rainfall, prairie seeds in the 1976 planting germinated, grew, and several patches of Big Bluestem produced seed. A Grasshopper Sparrow nest was also documented this summer.

In the fall, seed was again collected from the Penn-Central and L&N rights-of-way, and in some areas along the Penn-Central tracks near Westville. The seed seemed to be of exceptional abundance and quality. One worker collected five grocery sacks of Big Bluestem seed! The seed was stored and planted the next spring. Today, the 1977 planting still requires a great deal of hand weeding. However, it includes nice populations of Butterfly Weed, Wood Betony, Pale Lobelia, Purple Coneflower, Side-oats Grama, and several fall-blooming Ladies' Tresses. Tall grasses from adjacent plantings are seeding into this area, competing with the smaller species.

Grasshopper Sparrow nest hidden among the prairie grasses.

An area of about two acres, lying adjacent to the tree row, was planted in June following extensive preparation. (The area had been plowed in 1976, disked twice in 1977 and four times in 1978 prior to planting). The seed-sand mixture, including 20 species, was scattered. A space in the center was reserved for planting spring-blooming species.

After all of the preparation, we were rewarded with a solid stand of Millet! A large patch of Canada Thistle also had to be removed by hand.

By 1985, this area was a beautiful field of Wild White Indigo and Little Bluestem, with patches of Liatris cylindrica, Pale Spiked Lobelia, Pale Purple Coneflower, Indian Paintbrush, and Wood Betony. A sturdy border of Big Bluestem separated the planting from the tree row.

Today, this planting is nearly weed-free. There is some invasion of Blackberry along the eastern border, along with Hawkweed and Black Walnut trees (planted by squirrels), which requires continued maintenance.

Prairie Blazing-star in flower at Forest Glen Prairie.

1979

An area of approximately 2 acres, located north of the 1978 planting, was seeded following site preparation. The site was burned over in March, and was too wet to seed. It was mowed, disked, and roto-tilled three times prior to planting in June. Seeds of 32 species, in a ratio of 40% grasses and 60% forbs, were scattered with sand and harrowed in. New species in this planting inlcuded Great Blue Lobelia, Thimble Anemone, Golden Alexanders and Gaura.

A fair stand of prairie plants emerged. Problems to overcome included invasion of Timothy, a weedy goldenrod, Blackberry and Dewberry. This planting was mowed, leaving a six-inch stubble, in June of 1980 and October 1982. It was burned over in February of 1983 and March 1985.

Today, this area has good numbers of prairie forbs and grasses, but continues to be somewhat weedy. There is not enough time to hand weed this area on an annual basis. Unfortunately, we continue to have problems with an invasion of Tall Bush Clover and Silky Lespedeza.

Puccoon is one of the early-blooming prairie flowers.

1980

In 1980, two areas were seeded--one with sand and one without--to compare seed dispersal patterns. Seeds of 36 species, in a ratio of 40% grasses and 60% forbs, were planted in May. New species in this planting included Heliopsis, Physostegia, Lythrum alatum, Gentiana flavida and Gentiana andrewsii.

Immediate problems were apparent with quick growth of Red Clover, Millet, Thistle, and Wild Cherry trees, and the area was mowed in June. By autumn, the prairie boundary was extended due to a change in mowing practices along the park road. Therefore, additional seeding was done along the road.

In October 1982, this area was mowed very close in order to control woody plants. The area was burned in February of 1983 and March of 1985 to further help this problem.

By 1987, there was a fair stand of prairie, but there were continuing problems with Multiflora Rose, Blackberries, and exotic legumes which had escaped from wildlife plantings of previous years.

Today, we are making headway in this area. The quality of prairie has improved, and we continue to use mowing to work on eradicating the woody legumes.

Prairie Gentian in flower at Forest Glen, September 1990.

1981

We decided to put in a new prairie garden for educational purposes, and for protecting and starting rare species. The chosen area was mowed, then plowed and disked several times before planting.

Sixty species were planted from seed. Remembering our earlier experience, we planned much wider rows. Most of the seeds germinated successfully.

During the summer of 1984, the garden was vandalized . Purple Prairie Clover and Thimble Anemone were destroyed, and other plants were damaged. (A mower, which had been inadvertantly left at the site, was used in this "attack" on the garden.)

Grasses and Sylphiums in present garden at Forest Glen.

As we have previously stated, prairie plants will not stay in neat rows--living proof of how the prairie propagates itself. "Gypsy" plants were used for transplanting. In the fall of 1984, a wide row of four species of asters was added.

During the winter of 1984-85, several garden plants suffered winter damage from mice and voles. Most of the Liatris aspera and L. pycnostachya were destroyed, along with some Compass-plant and Illinois Bundleflower. The Liatris later seeded themselves and were re-established.

In 1985, a row of small "showy" species was added, including Flowering Spurge, Purple Clover, L. aspera, and Purple Coneflower.

Today, the prairie garden contains more than 50 species, and is regularly visited by school classes, wildflower photographers, students of prairie plants, and many park visitors from the local area and beyond.

Wildlife, especially White-Tailed Deer and Eastern Cottontails, graze some plants almost to extinction. Prairie Violet, Wild Hyacinth, Prairie Willow and Illinois Bundleflower are especially vulnerable. We have used wire baskets for protection, but they are not very effective.

A class visit to the prairie area.

* * * * *

In April of 1981, another area was also planted after burning and harrowing. Seeds from 40 species, in a ratio of 80% forbs and 20% grasses, were planted and harrowed in. (As an experiment, some 5-year-old seeds of Indian Grass were included. None germinated.)

This planting was burned off in 1984 and 1986. Weedy asters and goldenrods, as well as Fescue and Canada Thistle, were problem plants at this site. Today, it is a fair stand of prairie, with the afore-mentioned species requiring continual maintenance.

1982

In April, an additional area was burned and harrowed. Again, seeds of 40 species, in the same ratio as the previous year, were planted and harrowed.

This area was also burned in 1984 and 1986, and continues to suffer from competition by Fescue.

In October of 1982, a one-acre wildlife food plot was established. The area had been spring plowed and disked three times prior to the fall planting. Twenty species of forbs and legumes were seeded, including four different prairie sunflowers.

In 1986 and 1987, additional forbs and Switch Grass were planted on the eastern edge of the plot. The area was burned in 1987. Today, the wildlife food plot is visited by several species of birds, mammals, and invertebrates.

Prairie path in autumn.

1983

An additional planting of about two acres was seeded in June on a site that had been fall plowed. It was disked, seeded, and harrowed. A mixture of seeds from 55 species was used, in a ratio of 80% forbs and 20% grasses. A good stand of prairie resulted. The area was burned in 1986. It has provided an excellent source of seed for subsequent plantings of forbs and Side-oats Grama. Today, it remains a fine area, although there are minor problems with Red Clover and various weeds.

Indian Grass in flower at Forest Glen Prairie.

1984

After having been fall plowed in 1983, a fall planting of 35 species was made on a new two-acre site. Spring and early-summer species were concentrated in an area along the road. This area was burned in 1986. There are some problems with Fescue and Red Clover, but it has good populations of the summer-blooming forbs.

New Jersey Tea is one of the few shrubs characteristic of prairie.

1985

A small area north of the prairie garden was selected for special work. It was burned, but not too successfully, then mowed several times in an attempt to control White Sweet Clover and Multiflora Rose. It was spot-planted with forbs and hand-weeded.

Since the beginning, seed has been added each year, and hand-weeding has continued. Results have been very slow in this area, and it will need additional work.

Wild White Indigo in flower
at Forest Glen Prairie.

Physostegia (False Dragonhead)

1986

A late summer planting was made on a two-acre area on July 18. This area had been fall plowed in 1985, and mowed and disked previous to planting. Seeds of 30 species were used, in a ratio of 90% forbs and 10% Side-oats Grama. A collection of seed for spring and summer species was used; some of the seed had been collected in 1984 and 1985, as well as the current year.

There was very little rain from the time of planting until September 20, and so germination was limited. Prairie Coneflower, Brown-eyed Susan, and Gaura did survive.

In 1987, this area was a solid stand of Millet, and a favored site of the Ring-necked Pheasant (20 were flushed at one visit). Today, it is considered a fair stand of prairie.

The blooms of Rattlesnake Master are both attractive and unusual.

* * * * * *

On November 11, an additional one-acre strip was seeded to the west of the summer planting. Preparation of the site was the same as that for the July planting.

Three areas were seeded. Along the park boundary to the south, a mixture of tall grasses and Compass-plant was used. In the mid-section, a mixture of mid-height forbs and Canada Wild Rye was planted. Nearest the road, the mixture was more than 50% Rough Blazing-star and the remainder in other forbs and Side-oats Grama.

In 1987, this area was mowed twice to a six-inch stubble during the growing season. It is currently a poor to fair stand of prairie plants due to the effects of the drought during the summer of 1988. (Many small plants were lost in their second growing season.)

1989

Preparation for another planting in a true "problem area" began in 1988. In March of that year, the area was burned off. Individual plants of Multiflora Rose which survived were then treated with an application of "Round-up" in late summer. In March of this year, the area was burned again to further discourage woody plants. Plants once again emerged, and the whole area was then treated with a solution of "Round-up". In June, the area was mowed.

On June 14, the whole area was roto-tilled, and it was seeded the following day. A mixture of sand and seed from 31 species was used. Leadplant, New Jersey Tea, Purple Prairie Clover, Prairie Gentian and other selected forbs were represented in this special planting. The seeds were raked in by hand and then rolled.

Within four weeks, plants were emerging. In the 1990 growing season, this area developed into a good stand of prairie forbs.

1990

On June 15, we planted a small area on the southwest border of the prairie pond. After much difficulty in plowing the sod, we planted a mixture of 14 forbs and Side-oats Grama grass. There was good germination, and three species bloomed in summer.

Additional Prairie Projects

In 1986, the Horticulture Department of VOTEC initiated a small prairie plot at the school on Catlin-Tilton Road. With the assistance of Doris Westfall and Ken Konsis, students collected and planted seeds and sod from the Forest Glen prairie garden. This on-going project is coordinated by VOTEC and the VCCD.

W. S. Martin and Joyce Melton, teachers at Liberty School, encouraged their students to begin a prairie garden on the school grounds during the fall of 1989. As part of their Outdoor School classes at Forest Glen, the students visited the prairie, studied the plants, and then collected seed for use in their school prairie project.

Sixteen species of grasses and forbs were collected and sown in the prairie garden outside their school. We are hopeful that this project will be successful, and that others may follow on other school sites.

Maximilian sunflower blooms at Forest Glen Prairie.

Summary

During the 18 years of study of prairie remnants in Vermilion County, and a nearly equal amount of time in attempting to restore native prairie plants at Forest Glen Preserve, we have made several observations which may be of interest to others.

In prairie remnants in our county, we have found that species considered to be "wet prairie" varieties and others considered to be "mesic prairie" species often grow in close proximity. This is particularly true along the railroad rights-of-way, where Blueflag and Prairie Loosestrife grow a few feet from Prairie Dock and Big Bluestem, or where the Porcupine Grass, normally considered a "dry" species, is found in one of the wettest areas. Wild White Indigo and Pale Purple Coneflower are found both in the driest hill prairies and in the wettest areas of the railroad prairies.

Because our hill prairies also have seep springs, here, too, we have "wet" and "dry" species in close proximity. Due to the unique soil conditions at Windfall Prairie and Orchid Hill, we find the only examples of Indian Paintbrush, Grass-of-Parnassus, Birdfoot Violet, and Yellow Lady's-slipper that we know of in prairie remnants in the county.

We also found that some prairie plants do not bloom every year, or apparently stay dormant for one or more years. An area in Kennekuk County Park was accidentally burned, and the following year the Green Milkweed and Butterfly Weed both bloomed and produced seed. Neither had been observed in the area the previous year.

It is possible to produce Indian Paintbrush from seed, and to transplant a number of prairie species. With such species as Cord Grass, and Switch Grass, transplanting proved more successful. Big Bluestem is easily seeded, and also readily transplanted in spite of its massive root system. Some species have eluded us so far, and have not established themselves in the restoration area in spite of repeated seedings. These include Sullivant's Milkweed, Cream Indigo, Prairie Cinquefoil, White Prairie Clover, Prairie Willow, Closed Gentian, and New Jersey Tea. There is quite a noticeable difference in the quality of seed from year to year, and in some years the seed is very poor in viability. This is one reason for the difficulty we had in getting some species established.

We found that only hand-weeding can control the worst "aliens", such as Canada Thistle, Millet, Wild Garlic, and Daisy Fleabane. Unless hand-weeding is carried out, the tiny plants are completely smothered by mid-summer.

"Ideal" planting and growing conditions are rarely encountered, but when they are, a nice restoration can become established rather quickly. Our April, 1974, planting was the most successful we have experienced because the weather was the best for plant growth that year. This area has 25 species, and our original planting has 45 (it has had several additional seedings and transplants from our own nursery).

A garden plot is most helpful in learning to identify seedlings, and to observe the length of time required for flowering and the production of viable seed. It also serves as an educational tool to interest others in prairie plants. At the present time, there are about 70 species in our garden area which are labeled for teaching purposes (see appendix). Some special propagation and management techniques have proved helpful in our restoration project. A specific list of these is found in the appendix.

The first prairie garden--early 1970's.

Finally, the prairie restoration project taught us the virtues of hard work and patience. A project can be discouraging--such as when a summer drought shrivels the life from first-year seedlings, or rabbits snip the tops off the first Prairie Clover plants to appear. But a project can also be rewarding--as when the first Blazing-star blooms, or the Indian Paintbrush appears three years after seeding.

A prairie project of our type should not be attempted by anyone seeking "overnight" results. (We will not be ready to introduce Bison for many years!) But our project does have value in that the prairie plants growing in it are from local remnants. All are from seeds of plants which have grown in Vermilion County for millennia. We will never have a "complete" prairie, because many species were eliminated from our county long ago. But what will be re-established will be truly native to the "Grand Prairie" which once covered our area.

ACKNOWLEDGEMENTS

There are innumerable people who assisted us with guidance, advice, time and labor and made our work on prairie preservation and restoration possible. The trustees of the Vermilion County Conservation District allowed us to begin the restoration work, and authorized the lease of the Penn-Central right-of-way. The Vermilion County Audubon Society underwrote the cost of the project, including the construction of an observation tower at the restoration site.

Jeff Voigt, former director of the Conservation District and Thomas Harrold of Fithian assisted in the Con-rail crisis, and Ronald N. Pennock, Executive director, laid the groundwork for the restoration and lease. Larry Gilliland and Lee Wright, park superintendents, continue to donate time working on the restoration area and helping with the controlled burns. Members of the naturalist staff and ranger staff also donate assistance. Several classes of "outdoor school" students have helped in seeding.

Dr. Robert Evers, Ray Schulenberg, Dr. Almut Jones, the late Dr. Lewis Stannard, Dr. Kenneth Robertson, and Dr. Jean Graber assisted with information, identification of plants, and encouragement. Harold Rock's "Prairie Propagation Handbook" was an invaluable tool.[6] Correspondence with Joseph Nyhoff of the Illinois Department of Conservation was also helpful.

Special thanks are due those who labored for many hours under sometimes adverse conditions collecting seed, hand weeding, etc. These include Debbie Schrishuhn Buzzard, Jo Biedermann, the late Jackie Duffin, Bob Schifo, Ivan Easton, Margaret Murphy, Sue Moulder, Agnes Miller, Mary Kay Kopeki, John Taft, Laura Wilson, Valerie DuPrez, Michael Donahue, Alma Donahue, Pat Kilgore, Trudy Lorenzen, Sister Mary Ruth, Nancy Snider, Becky Lomax, Todd Kincaid, and Bob Westfall. Jim Smith assisted in working up the soil and harrowing.

To the late David Watson and to Elberta Hanner go our greatest thanks for their constant help and support during the project, and continuing interest in the prairie restoration work. Without their help, this dream could not have been realized. Special thanks to Ken and Lorna Konsis for help with this revised publication.

A honeybee gathers pollen from heads of the Prairie Coneflower.

New England Aster blooms late in the prairie year.

APPENDIX

Wildlife and the Prairie

Almost from its beginning, the restored prairie has attracted wildlife. Even in winter, when it is subjected to snows and frigid winds, the prairie hosts many animals. Mice and voles run about in the cover of the tall grasses, while the Northern Harrier and Short-eared Owl hunt overhead.

With the early days of spring, Meadowlarks sing cheery songs from atop dried stalks of Compass-plant and Prairie Dock. LeConte's Sparrows pass through, soon to be followed by other migrants, such as the Upland Sandpiper. (This species nests at the Vermilion County Airport).

During the 1970's, a colony of Purple Martins nested in a house in the middle of the prairie. In recent years, however, martins have not inhabited any of the boxes in the preserve. We are concerned about the overall decline of this species.

Birds which regularly nest at the prairie include Ring-necked Pheasant, Horned Lark, Grasshopper Sparrow, Song Sparrow, Eastern Bluebird, Eastern Meadowlark, and Field Sparrow. Northern Bobwhite and Savannah Sparrows are less common summer residents. Henslow's Sparrow, Dickcissel and Sedge Wren have also nested at least once in recent years. Bobolinks come every spring, but they are harassed and chased away by Red-winged Blackbirds before nests can be established.

In fencerows and brushy fields adjoining the prairie, the Brown Thrasher, Yellow-breasted Chat, House Wren, Northern Yellowthroat, and Red-winged Blackbird are common nesting species. In 1984, a pair of Blue-winged Teal nested at the prairie pond; it was the first documented nest record of this species for the county.

In summer, the Great Horned Owls bring their young from nearby woods to sharpen their hunting skills over the prairie. In this season, there are abundant mice, voles, and Eastern Cottontails. A lone Canada Goose of the "giant" subspecies appeared on the prairie in 1974. It was believed to be one of several which had earlier been released at Kickapoo State Recreation Area.

White-tailed Deer frequent the prairie to forage and rest. One doe always gives birth to her fawns in the dense vegetation. Other mammals observed at the prairie include Coyote, Red and Gray Foxes, Raccoons and Mink.

In early spring, the temporarily-swollen pond is home to dozens of frogs and toads. Even a few fish are present, and they provide food for the Raccoons and an occasional Belted Kingfisher or Great Blue Heron. A few reptiles, such as Blue Racers and Black Rat Snakes, have also been observed.

Much needs to be done in documenting the abundant insects and other invertebrates which are also a part of the prairie community. Our studies in this area are continuing.

Monarch butterfly sips nectar from a goldenrod.

Methods for Restoration Projects:

"Tricks of the Trade"

We would like to share a few "tricks" and special techniques that have worked for us at the Forest Glen Prairie Area. Others may find our experience helpful as they tackle their own restoration projects.

*Hand weeding is the classic--there is no better technique! Hand weeding in the first seven plantings has no doubt hurried the prairie along and enhanced the overall apearance and saved smaller species.

*Use sheets of black plastic to kill weeds and grass before planting or transplanting small patches of special plants. Shovel dirt on the edges of the plastic to hold it in place.

*A favorite tool is an old-fashioned tile spade that excises a weed with a small incision and little disturbance of prairie plants.

*Parasitic or semi-parasitic plants can be propagated by sowing fresh seed on established prairie. We have had success with Indian Paintbrush, Wood Betony, and Toadflax using this technique.

*Young prairie should not be weeded "too clean", for it invites too much dusting by "Hiawatha's chickens" and grazing by rabbits and deer. It is better to leave a little cover!

*Prairie plantings can be measurably increased and/or repaired with spot seeding in the fall. In sparsely populated areas, pull up the weeds and shake soil from the roots--an instant seed bed! Collect the desired seeds at hand and rake or press into the soil. (We used Pale Purple Coneflower, Wild Quinine, Blueflag, Purple Clover and others in this way).

*The annual Partridge Pea serves as a ground cover and weed deterrent for fallow ground, and also produces food for quail and other birds at the same time.

*A map of the prairie project area has been a valuable tool. Copies can be marked with mowing and burning instructions. Spot plantings and transplants can also be marked, making them more readily found as the growing season progresses. Rare plants and bird nests can be marked for photography. It is also impo'tant to keep a journal or diary of proceedings and records of flowering times for various plants. Such information is especially helpful for future plantings and seed collection.

*It is delightful to follow--and photograph--the seasons of the prairie year, beginning with Pussytoes, Wild Strawberry, and Prairie Buttercup on to the very latest asters and Autumn Ladies' Tresses.

*Collections made each summer and fall of special plants, and seeding on site to increase the number of plants is a worthwhile procedure.

*After doing many different seed bed preparations, most result in a solid stand of Millet and many farm weeds!

*Our later plantings have fair to good patches of prairie plants. They must compete with exotics, although we will aid them with mowing and some burning.

*Propagation thus far has been 98% by seed--dry, cold-stored seed or fresh seed. A few transplants have been salvaged sods from railroad rights-of-way that were being bulldozed, and some were taken from the prairie garden. Transplants create much more work because they need constant attention, such as regular watering and protection from erosion and grazing.

*Poor, dry, highly-erodable soils produce slow results. Plantings comprised of wet or medium-wet species are lost to hot, dry weather on such soils. If wet species can be established around a pond, they will hold moisture. Legumes help build up the soil, and new attempts at propagating moisture-loving species can be made.

*We have no paths through the prairie proper. There is a path leading to an observation tower and the pond. Attempts to label specimens along the path were futile--flowers were picked for bouquets, and whole plants lifted out of the ground. Sometimes they were thrown aside, and other times taken away. We now label plants only at the prairie garden.

*An old waterway, complete with non-native grasses, serves as a path and service road to the prairie garden. It is kept mowed short, and the far end is used as a nursery for working with species which require special techniques. The boundary of the prairie is also mowed short, serving as a buffer zone from fields and farm weeds. These linear paths are used for field trips around the perimeter and access to the prairie garden and pond for teaching and study.

*Problem areas sometimes require more intense management. An area of about 1/4 acre, between the 1975 (D) and 1978 (H) plantings, was left to succession. It was a tangle of Poison Ivy, Multiflora Rose, Wild Cherry,

Blackberry, and Queen Anne's Lace. In 1976, the area was burned over as an adjacent seed bed was prepared. It was mowed short in 1978. It was burned again in the springs of 1981, 1983 and 1985. On occasion, a few large woody plants were removed by hand. By 1987, twelve years into the management plan, prairie vegetation had moved in from all four sides. Ten species of native forbs and grasses gradually covered the area. (Other problem areas, overrun with Eurasian weeds, Blackberry, Red Clover and Fescue are being managed by mowing and burning at strategic times to encourage prairie grasses).

Flowers and seed head of the Illinois Bundleflower,

the Prairie Mimosa

PRAIRIE PLANTS IN THE GARDEN PLOT AT FOREST GLEN

Indian Grass

Switch Grass

Canada Wild Rye

Side-oats Grama

Prairie Dock

Wild Strawberry

Mountain Mint

Prairie Rose

Prairie Coneflower

Wild Quinine

Blueflag

Downy Sunflower

Bush Clover

Big Bluestem

Cord Grass

Bundleflower
(Prairie Mimosa)

Rough Blazing-star

Yellow Star-grass

Blue-eyed Grass

Dark Blue-eyed Grass

Heliopsis (False Sunflower)

Turk's-cap Lily

Purple Oxalis

American Germander

Downy Phlox

Yellow Pimpernel

Wild Bergamot

Little Bluestem

Compass-plant

Rosinweed

Partridge Pea

Swamp Milkweed

Prairie Blazing-star

Pale Purple Coneflower

Rattlesnake Master

Stiff Goldenrod

Prairie Phlox

Purple Prairie Clover

Puccoon

Northern Dropseed

Wild White Indigo

Leadplant

Porcupine Grass

Sullivant's Milkweed

Flowering Spurge

New Jersey Tea

Thimble Anemone

Gaura

Swamp Phlox

Prairie Violet

Prairie Buttercup

Wild Hyacinth

Spiderwort

French Grass

Cup-plant

Sweet Coneflower

Golden Aster

Smooth Aster

Heath Aster

Pussy Willow

Shooting-star

Golden Alexanders

Prairie Anemone

Butterfly Weed

Prairie Tickseed

Culver's-Root

Ironweed

New England Aster

Azure Aster

A field trip to the Forest Glen Prairie.

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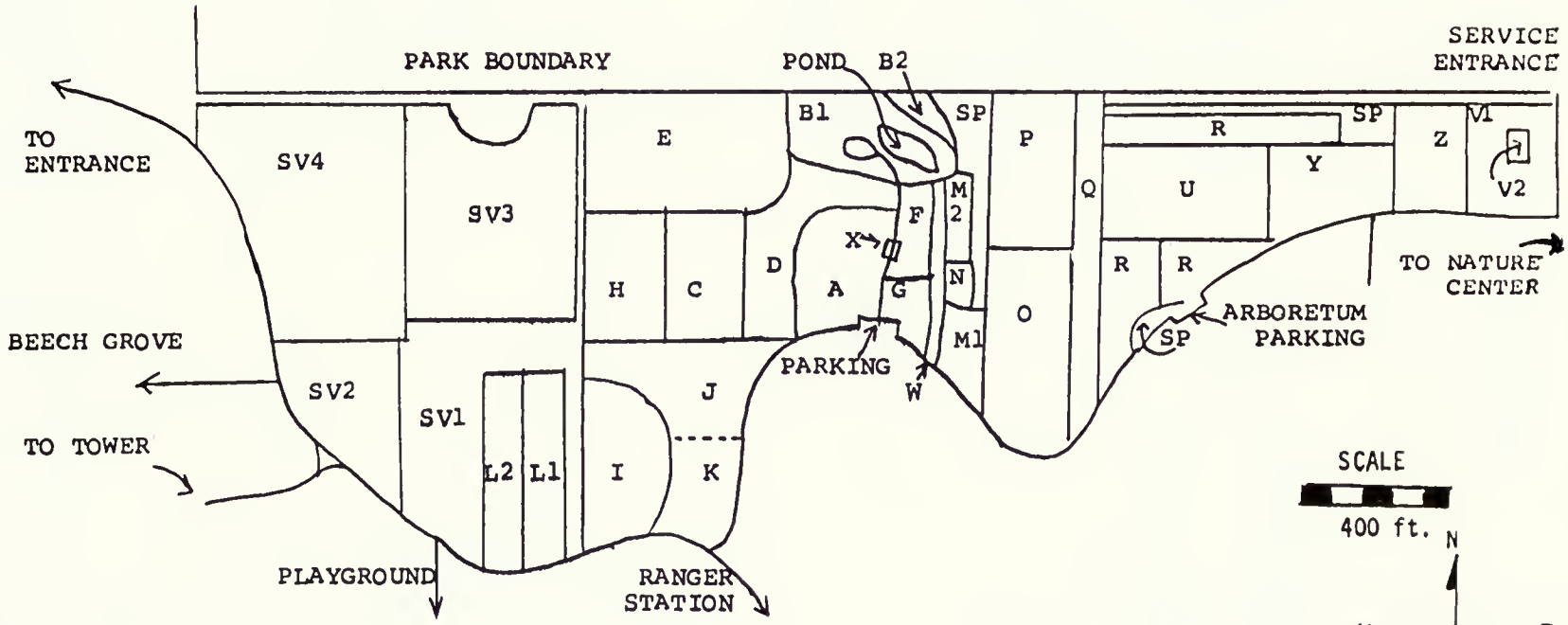
PHOTOGRAPHY

A complete history of the Forest Glen prairie project has been maintained through photographs by Marilyn Campbell. She also has made an extensive collection of portraits of prairie flowers and herbs from throughout the county.

DORIS L. WESTFALL

PRAIRIE RESTORATION AREA



LEGEND

A- 1973
B1-spot planting (1973)
C- 1974
D- 1975 (spring)
E- 1976
F- 1975 (fall)
H- 1978
I- 1979
J- 1980 (sand)
K- 1980 (w/o sand)
L1- 1983 (wildlife food plot)
L2- food plot addition
M1- 1985
M2- 1991
N - garden
O - 1981
P - 1982
Q - 1983
R - 1984 (fall)
S - 1984 (special)
U- undeveloped
V1- 1988 (managed spot planting)
V2- 1989 (tilled)
W- waterway
X- observation tower

(continued on back)

ACREAGE

Total acres prairie - 40

Total acres savanna - 22

Y - 1986 (July)
Z - 1986 (November)

SP - spot planting
B2 - 1990 (tilled)

SV - Illinois Native Plant Society Savanna Area - 1989
SV1 - Savanna compartment 1
SV2 - Savanna compartment 2
SV3 - Savanna compartment 3
SV4 - Savanna compartment 4

A - 1.9
B1 - 1.5
B2 - .5
C - 1.8
D - 1.9
E - 4.0
F - 1.8
G - .6
H - 2.0
I - 2.0
J - 2.3
K - 1.1
L1 - 1.2
L2 - 1.2
M1 - .8
M2 - .5
N - .2
O - 2.6
P - 2.1
Q - 1.2
R - 1.1
S - .2
U - 2.1
V1 - 1.5
V2 - .5
Y - 1.8
Z - 1.6
SV1 - 3.5
SV2 - 2.0
SV3 - 5.0
SV4 - 5.8

ANNOTATED LIST OF PLANTS IN
FOREST GLEN PRAIRIE RESTORATION

Amorpha canescens, Leadplant
Planting year - 1973, 1975 fall N
Occurrence - few plants 1973; good numbers 1975 fall
Remarks - increasing

Andropogon gerardi, Big Bluestem
Planting year - 1973 to 1983, N
Occurrence - abundant in all plantings
Remarks - a dominant grass

Andropogon scoparius, Little Bluestem
Planting year - 1977, 1978, 1979, 1980 B,N
Occurrence - abundant all plantings
Remarks - aggressive 1977, 1978 B, N

Anemone canadensis, Canada Windflower
Planting year - 1973 W, N
Occurrence - few plants
Remarks - increasing slowly

Anemone cylindrica, Prairie Thimbleweed
Planting year - N, 1973; 1977, 1984; 1975 fall
Occurrence - few plants
Remarks - increasing slowly

Antennaria sp., Pussytoes
Planting year - 1973, 1974 1974 fall, N; 1978
Occurrence - several mice colonies
Remarks - spreading

Apocynum sp., Dog bane
Planting year - 1978, 1978 N, 1985
Occurrence - present small numbers
Remarks - control in hay field (1976)

Asclepias hirtella, Tall green Milkweed
Planting year - 1983, 1984 W, 1986, 1985
Occurrence - no plants yet
Remarks - seed collected x 5 & planted--no results; lost to insects or poor seed

Asclepias incarnata, Swamp Milkweed
Planting year - 1973, N; 1975 fall
Occurrence - good stands near pond
Remarks - increasing

Asclepias sullivantii, Sullivant's Milkweed
Planting year - 1975 fall; 1975 spring N, 1973
Occurrence - very few plants
Remarks - difficult to establish; lose seedlings & inflorescence to insects

Asclepias syriaca, Common Milkweed
Planting year - most plantings
Occurrence - few plants
Remarks - seed collected inadvertantly with prairie species

Asclepias tuberosa, Butterfly Weed
Planting year - 1977, N
Occurrence - few plants
Remarks - difficult to establish but increasing

Aster azureus, Sky-blue Aster
Planting year - 1977, N, W 1984
Occurrence - few plants
Remarks - slow but increasing; seed poor quality most years

Aster laevis, Smooth Aster
Planting year - 1973, 1974, 1975 fall; 1977, 1983, 1984 N,W
Occurrence - best stands in 1983 & 1984 plantings
Remarks - increasing

Aster novae-angliae, New England Aster
Planting year - seeded in all plantings when seed was available
Occurrence - best stands 1979, 1977, 1983, 1984
Remarks - increasing

Aster ericoides, Heath Aster
Planting year - in most plantings
Occurrence - few plants
Remarks - increasing

Aster pilosua, Weedy or White Aster
Planting year - in most plantings
Occurrence - ranges from few plants to patches
Remarks - controlled

Baptisia leucantha, White Indigo
Planting year - 1973, 1974, 1975 fall, 1976, 1977 in most plantings
Occurrence - good populations
Remarks - increasing

Baptisia leucophaea, Cream Indigo
Planting year - added to 1973, 1975 fall, 1984 plantings
Occurrence - no sign of seedlings yet
Remarks - seed added 1986 and 1987

Bouteloua curtipendula, Side-oats Grama
Planting year - added to 1973 & 1978 planting N, seeded 1983, 84, 86, 89, 90 plots
Occurrence - patches here and there
Remarks - increasing

Cacalia tuberosa, Tuberous Indian Plantain
Planting year - 1973, 1975 fall
Occurrence - no plants
Remarks - have lost this rare plant for time being

Calamagrotis canadensis, Blue Joint Grass
Planting year - 1975 fall N
Occurrence - several good specimen plants
Remarks - increasing

Camassia scilloides, Wild Hyacinth
Planting year - added bulbs & seed to N, W, 1975 fall, 1973, 1981, 1977
Occurrence - 3-6 bulbs in each area bloomed and produced seed
Remarks - some seedlings lost to hot, dry conditions

Cardamine bulbosa, Spring Cress
Planting year - transplants and seeds added to 1975 area
Occurrence - no plants found
Remarks - temporarily lost probably due to hot, dry conditions

Cassia fasciculata annual, Partridge Pea
Planting year - in most plantings
Occurrence - many plants used as ground cover;
Remarks - nurse crop

Castilleqa coccinea, Indian Paintbrush
Planting year - 1973 -3 patches; 1974 1 patch; 1975 fall -1 patch
Occurrence - numerous plants in 3 areas
Remarks - fresh seed scattered on established prairie

Ceanothus americanus, New Jersey Tea
Planting year - 1973 N
Occurrence - 6 plants from salvaged sods
Remarks - seed collected and planted each years - no germination thus far

Comandra richardsiana, False Toadflax
Planting year - 1973, 1977
Occurrence - 2 good patches
Remarks - increasing

Coreopsis palmata, Prairie Coreopsis
Planting year - N 1984
Occurrence - few plants
Remarks - have probably been too cautious in seeding it

Coreopsis tripteris, Tall Coreopsis
Planting year - 1981, 1977, 1983, N
Occurrence - many plants
Remarks - increasing

Desmanthus illinoensis, Bundleflower (Prairie Mimosa)
Planting year - 1977, 1989
Occurrence - several plants
Remarks - slow to germinate

Desmodium canadense, Showy Tick Trefoil
Planting year - 1975 fall, 1973, 1978
Occurrence - trying to keep few plants
Remarks - being spread by animals

Desmodium illinoense, Illinois Tick Clover
Planting year - 1975 fall, 1980, 1981
Occurrence - trying to control because of fruits
Remarks - being spread by animals

Dodecatheon meadia, Shooting-star
Planting year - 1973, 1977, 1980
Occurrence - few plants
Remarks - some from seed, some from salvaged sods

Echinacea pallida, Pale Purple Coneflower
Planting year - 1973, 1975 fall, 1984, 1977
Occurrence - good numbers of plants from original seeding
Remarks - spreads slowly

Elymus canadensis, Canada Wild Rye
Planting year - all plantings
Occurrence - plants here and there
Remarks - has not been a problem

Eryngium yuccifolium, Rattlesnake Master
Planting year - 1973, 1975 fall, 1983, 1984
Occurrence - many plants
Remarks - increasing in wet areas

Euphorbia corollata, Flowering Spurge
Planting year - 1975 fall, 1977, 1984
Occurrence - slow growing at first
Remarks - increasing

Fragaria virginiana, Wild Strawberry
Planting year - in most plantings
Occurrence - nice patches
Remarks - increasing

Gaura biennis, Gaura
Planting year - 1975 fall, 1977, 1983
Occurrence - few plants
Remarks - increasing

Gentiana andrewsii, Closed Gentian
Planting year - 1973, original plants from salvaged sods
Occurrence - small amounts seed planted each year
Remarks - no signs of germination

Gentiana flavida, Yellow Gentian
Planting year - 1975 fall, original plant from salvaged sod
Occurrence - seeds planted each year
Remarks - 8 flowering plants in 1987

Gentiana puberulenta, Downy Gentian
Planting year - seeded in 1973, 1975, 1984 areas
Occurrence - no sign of seedlings yet (1987)
Remarks - flowered in 1989, 1990

Gentiana quinquefolia, Stiff Gentian
Planting year - 1973, 1977
Occurrence - have fewer plants each year
Remarks - 1 plant bloomed in 1987

Gerardia tenuifolia, Slender False Foxglove
Planting year - 1976
Occurrence - many plants
Remarks - seed from Kennekuk

Helenium autumnale, Sneezeweed
Planting year - 1973, 1975, 1983
Occurrence - numerous plants
Remarks - increasing in wet areas

Helianthus grosseserratus, Sawtooth Sunflower
Planting year - in all plantings
Occurrence - limited numbers
Remarks - increasing

Helianthus riqidus, Stiff Sunflower
Planting year - in most plantings
Occurrence - limited numbers
Remarks - increasing

Helianthus mollis, Downy Sunflower
Planting year - in most plantings
Occurrence - many plants in first plantings
Remarks - colonizing - omitted from later plantings

Heliopsis helianthoides, False Sunflower
Planting year - in most plantings
Occurrence - numerous plants
Remarks - increasing

Heuchera richardsonii, Alum root
Planting year - 1985
Occurrence - few plants
Remarks - holdings its own

Hypoxis hirsuta, Yellow Star-grass
Planting year - N, 1973, 1975
Occurrence - few plants
Remarks - holdings its own

Iris shrevei, Blueflag - late addition to prairie
Planting year - 1973, 1983, 1975, N
Occurrence - few plants
Remarks - increasing - lost original plants from seed to dry conditions

Krigia biflora, Two-flowered Cynthia
Planting year - 1975 N 1973
Occurrence - few plants
Remarks - increasing

Lespedeza capitata, Bush Clover
Planting year - in most plantings
Occurrence - good populations
Remarks - increasing

Lespedeza virginica, Slender Lespedeza
Planting year - L 1977, 1983
Occurrence - good populations
Remarks - increasing

Liatris aspera, Rough Blazing-star
Planting year - N, B, 1979
Occurrence - few plants
Remarks - much damage in winter by field mice and voles - ate corms

Liatris cylindracea, Blazing-star
Planting year - 1978, 1977, 1980, 1975
Occurrence - few plants
Remarks - seems to be lost easily in both seedling & mature plant stage

Liatris pycnostachya, Prairie Blazing-star
Planting year - 1973, 1978, 1980, 1984
Occurrence - few plants in each planting
Remarks - lost plants to mammals and drought

Lilium michiganense, Turk's Cap Lily
Planting year - N, 1975, 1973
Occurrence - few plants
Remarks - subject to insect damage and deer grazing

Linum sulcatum, Flax
Planting year - 1973
Occurrence - found no plants in 1987
Remarks - four plants bloomed in 1990

Lithospermum canescens, Hoary Puccoon
Planting year - N, 1977, 1973, 1980
Occurrence - few plants from salvaged sods
Remarks - holdings its own; has produced very little seed

Lobelia spicata, Pale Lobelia
Planting year - 1977, 1978, 1983
Occurrence - good populations
Remarks - increasing

Lythrum alatum, Winged Loosestrife
Planting year - 1973
Occurrence - numerous plants
Remarks - added in wet area after original planting

Monarda fistulosa, Bergamot
Planting year - in most plantings
Occurrence - good populations
Remarks - increasing

Oenothera pilosella, Sundrops
Planting year - 1973, 1975
Occurrence - several patches
Remarks - added after original planting

Oxalis violacea, Violet Wood Sorrel
Planting year - 1981, N, W
Occurrence - a few plants
Remarks - slow to start

Oxypolis rigidior, Cowbane
Planting year - 1975
Occurrence - few plants in wet area
Remarks - no sign of flower in 1987, observed five in 1990

Panicum virgatum, Switchgrass
Planting year - in most plantings
Occurrence - 1973 & 1974, seed did not come up
Remarks - increasing

Parthenium integrifolium, Wild Quinine
Planting year - in most plantings
Occurrence - plants here and there
Remarks - increasing

Pedicularis canadensis, Wood Betony
Planting year - 1975, 1977, 1978
Occurrence - small but nice patches
Remarks - added after original planting

Penstemon digitalis, Smooth Beard-tongue
Planting year - 1975 (fall), 1984
Occurrence - few plants
Remarks - increasing

Petalostemum candidum, White Prairie Clover
Planting year - 1981, N
Occurrence - one plant bloomed
Remarks - seeded several times - no seedlings yet

Petalostemum purpureum, Purple Prairie Clover
Planting year - 1973, 1975
Occurrence - several seed producing plants
Remarks - difficult to get going

Phlox glaberrima, Smooth Phlox
Planting year - N, 1975
Occurrence - few plants
Remarks - slow to establish; areas too dry

Phlox pilosa, Prairie Phlox
Planting year - 1973, 1977, 1975, 1981
Occurrence - several plants
Remarks - increasing

Physotegia, False Dragonhead
Planting year - 1983, 1978
Occurrence - few plants
Remarks - increasing

Polygonatum sp., Great Solomon's Seal
Planting year - N, 1975
Occurrence - several attempts
Remarks - keeps dying

Polytaenia nuttallii, Prairie Parsley
Planting year - 1984
Occurrence - few plants
Remarks - later addition

Psoralea onobrychis, French Grass
Planting year - 1975, 1977
Occurrence - few plants
Remarks - holding its own

Pycanthemum tenuifolium, Mountain Mint
Planting year - in most plantings
Occurrence - abundant
Remarks - increasing

Ranunculus, Buttercup
Planting year - N, 1981
Occurrence - few plants
Remarks - keeps dying out

Ratibida pinnata, Yellow Coneflower
Planting year - most plantings
Occurrence - abundant
Remarks - well established

Rosa carolina, Prairie Rose
Planting year - 1973, 1977
Occurrence - abundant
Remarks - increasing

Rudbeckia hirta, Brown-eyed Susan
Planting year - most plantings
Occurrence - abundant
Remarks - well established

Rudbeckia subtomentosa, Sweet Coneflower
Planting year - 1981, 1983
Occurrence - few plants
Remarks - later addition

Ruellia humilis, Hairy Ruellia
Planting year - N, 1977
Occurrence - few plants
Remarks - increasing

Salix humilis, Prairie Willow
Planting year - N, 1975, 1973
Occurrence - few plants
Remarks - succumbs to grazing and insects

Silphium laciniatum, Compass-plant
Planting year - in early plantings
Occurrence - good populations
Remarks - established

Silphium integrifolium, Rosinweed
Planting year - in most early plantings
Occurrence - sufficient plants
Remarks - increasing

Silphium perfoliatum, Cup-plant
Planting year - 1981, N, wet areas
Occurrence - sufficient plants
Remarks - increasing

Silphium terebinthinaceum, Prairie Dock
Planting year - in early plantings
Occurrence - sufficient plants
Remarks - established

Sisyrinchium albidum, Pale Blue-eyed Grass
Planting year - N, 1975
Occurrence - few plants
Remarks - increasing

Sisyrinchium angustifolium, Dark Blue-eyed Grass
Planting year - N, 1975
Occurrence - few plants
Remarks - increasing

Solidago altissima, Tall Goldenrod
Planting year - in most plantings
Occurrence - sufficient plants
Remarks - spreading--needs managing at times

Solidago graminifolia, Narrow Leaf Goldenrod
Planting year - in several plantings
Occurrence - sufficient plants
Remarks - spreading

Solidago juncea, Early Goldenrod
Planting year - in most plantings
Occurrence - sufficient plants
Remarks - spreading

Solidago nemoralis, Old Field Goldenrod
Planting year - in most plantings
Occurrence - sufficient plants
Remarks - established

Solidago rigida, Stiff Goldenrod
Planting year - in most plantings
Occurrence - sufficient plants
Remarks - established

Solidago speciosa, Showy Goldenrod
Planting year - in most plantings
Occurrence - sufficient plants
Remarks - established

Sorghastrum nutans, Indian Grass
Planting year - in early plantings
Occurrence - abundant
Remarks - established

Spartina pectinata, Cord Grass
Planting year - in wet areas
Occurrence - some nice patches
Remarks - increasing

Spiranthes cernua, Ladies' Tresses
Planting year - 1977, 1975, 1973, 1978
Occurrence - 5 flowering stalks in 1987
Remarks - seed added to established prairie

Sporobolus heterolepis, Prairie Dropseed
Planting year - N, 1973, 1977, 1975
Occurrence - few plants
Remarks - increasing

Stipa spartea, Porcupine Grass
Planting year - N, 1975, 1984
Occurrence - few plants
Remarks - increasing slowly

Taenidia integerrima, Yellow Pimpernel
Planting year - N, 1984
Occurrence - few plants
Remarks - increasing

Thalictrum dasycarpum, Tall Meadow Rue
Planting year - 1975, in wet areas
Occurrence - few plants
Remarks - slow to establish

Tradescantia ohiensis, Spiderwort
Planting year - 1973, 1975, N, 1981
Occurrence - few plants
Remarks - slow to establish

Verbena hastata, Verbena
Planting year - 1983, wet areas
Occurrence - few plants
Remarks - later addition

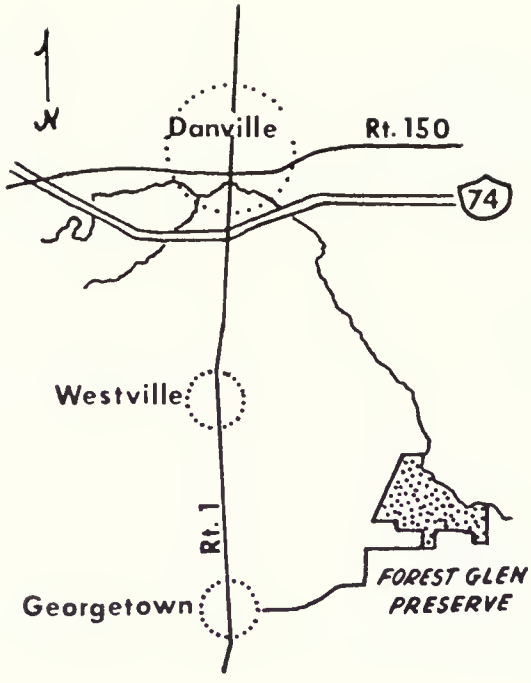
Vernonia fasciculata, Ironweed
Planting year - in several plantings
Occurrence - sufficient plants
Remarks - may need control later

Veronicastrum virginicum, Culver's-root
Planting year - 1973, 1975, N
Occurrence - few plants
Remarks - slow to establish

Viola pedata, Birdfoot Violet
Planting year - 1973, 1975
Occurrence - few precious plants
Remarks - slowly increasing

Viola pedatifida, Prairie Violet
Planting year - N, 1975, 1973
Occurrence - few plants
Remarks - increasing; subject to grazing

Zizia aurea, Golden Alexander
Planting year - N, 1975, 1981
Occurrence - few plants
Remarks - increasing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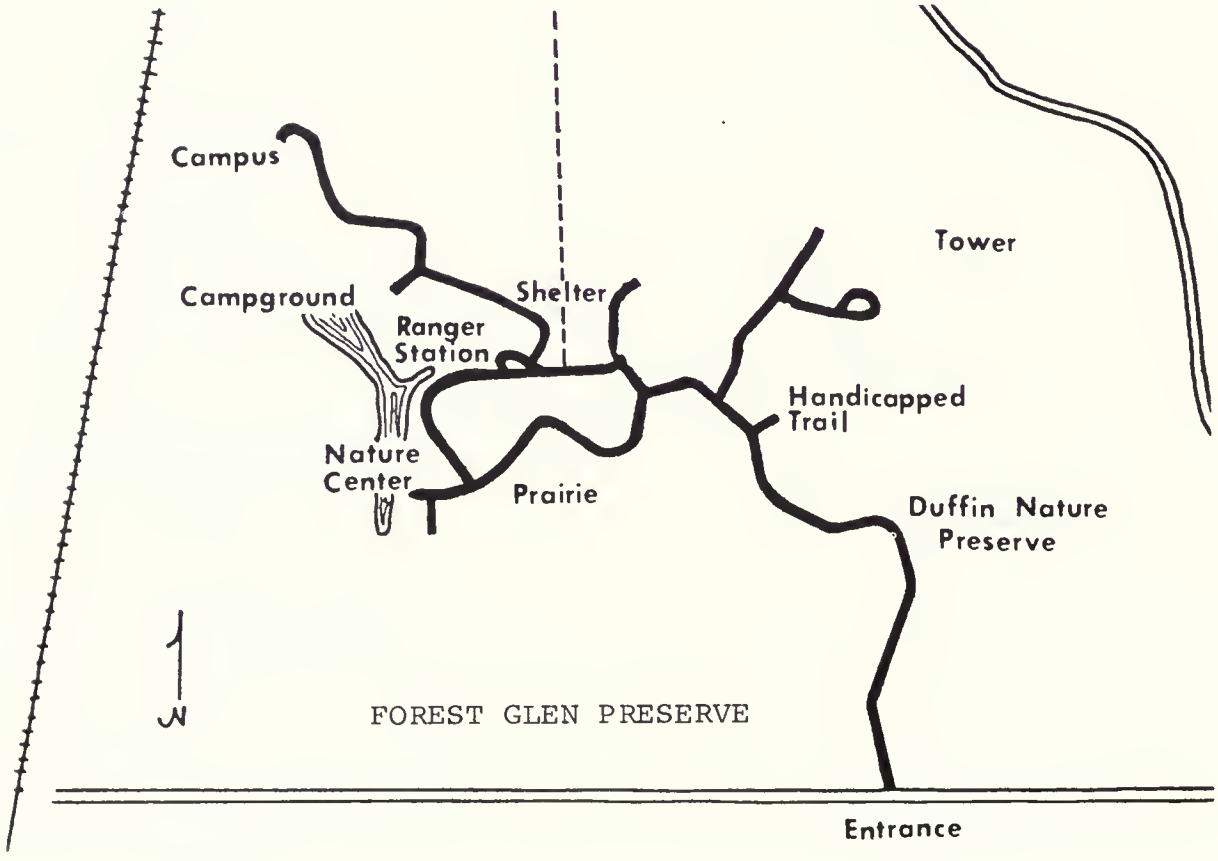
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